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Employing Electro-Galvanic and Magnetic Action for Medical Purposes.

LETTERS PATENT to Antoine Burq, of Paris, Chemist, for the Invention of "CERTAIN INSTRUMENTS, APPARATUS, AND ARTICLES FOR THE APPLICATION OF ELECTRO-GALVANIC AND MAGNETIC ACTION FOR MEDICAL PURPOSES."

Sealed the 29th September 1853, and dated the 4th April 1853.

PROVISIONAL SPECIFICATION left by the said Antoine Burq at the Office of the Commissioners of Patents, with his Petition, on the 4th April 1853.

I, ANTOINE BURQ, of Paris, Chemist, do hereby declare the nature of the said Invention of "CERTAIN INSTRUMENTS, APPARATUS, AND ARTICLES FOR THE APPLICATION OF ELECTRO-GALVANIC AND MAGNETIC ACTION MEDICAL PURPOSES," to be as follows:—

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such as the state of health of the patient, age, &c. And thus it happens, that the application of copper may have no beneficial effect on one patient, while it may benefit another, or vice versâ; steel may be injurious to one, and useful to another; and the judicious combination of metallic bodies forms the great secret of success in this art. And I find that the application of copper and brass, and of English and German steel combined, form useful combinations for medical applications. And my Invention consists in certain instruments and apparatus made of these four metals, to be applied to the human frame for the purpose of giving to it magnetic, electric, or magneto-electric action. Figure 1, represents two rings; one, A, half brass, half copper; the other, B, half English, half German steel; and these rings may be worn together or not. Figure 2, is a medal. Figure 3, is a series of medals, made of copper and brass, English and German steel. The same medals may be used as shewn in Figure 4, hung together by chains. Figures 5, 6, and 7, shew different combinations of the same metallic medals. That shewn by Figures 7 and 8, may be worn as a bracelet. Figure 9, represents a corset busk, one side being made of copper and brass, and the other of English and German steel, or they may be made with the four metals on one side. Figure 10, represents whipping rods made of a bundle of the four metals. Figure 11, an Indian strigil for causing friction; the small wooden wheels are alternately covered with copper, brass, and English and German steel. Figure 12, represents what I call metallic wadding; it is made of cotton wadding moistened with some glutinous matter, such as treacle, on which a coating of filings of the four above named metals is sprinkled, over which a layer of cotton is again placed. Figures 13 and 14, represent armatures, or large rings, for the thigh, leg, or arm. [illegible]hole of the limb is to have the application, two may be used; [illegible] made of the same metals.

[illegible]th, in which filings of the said four metals [illegible]. For the prevention of oxidation [illegible] or faces of these [illegible] myself to

SPECIFICATION in pursuance of the conditions of the Letters Patent, filed by the said Antoine Burq, in the Great Seal Patent Office, on the 4th October 1853.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ANTOINE BURQ, of Paris, Chemist, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Fourth day of April, in the year of our Lord One thousand eight hundred and fifty-three, in the sixteenth year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Antoine Burq, Her special licence that I, the said Antoine Burq, my executors, administrators, and assigns, or such others as I, the said Antoine Burq, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention of "CERTAIN INSTRUMENTS, APPARATUS, AND ARTICLES FOR THE APPLICATION OF ELECTRO-GALVANIC AND MAGNETIC ACTION FOR MEDICAL PURPOSES," upon the condition (amongst others) that I, the said Antoine Burq, by an instrument in writing under my hand and seal, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Antoine Burq, do hereby declare the nature of my said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

It has been discovered by medical men, that the outward application to the human frame of various metals, either in a pure or alloyed form, is more useful and efficacious than the application of galvanic currents for the same purpose. The magnetic, electric, or other like properties possessed by various metals differ much in quality and degree, and the

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effects resulting from their application also vary with circumstances, such as the state of health of the patient, age, &c. And thus it happens, that the application of copper may have no beneficial effect on one patient, while it may benefit another, or *vice versâ*; steel may be injurious to one, and useful to another; and the judicious combination of metallic bodies forms the great secret of success in this art. And I find that copper and brass, and English and German steel, form useful combinations for medical applications, more especially in cases of cholera, when employed in the manner and by means of the instruments and apparatus herein-after described. And my Invention consists of the manufacture and use of certain instruments and apparatus made of these four metals, to be applied to the human frame for the purpose of giving to it magnetic, electric, or (magneto-electric action.

Fig. 1, represents two rings to be worn on the fingers, one half of the ring A, is made of brass, and the other half of copper. The ring B, is composed of one half English steel, and one half German steel. These rings may be worn either upon one finger, or upon two fingers of the same hand. Fig. 2, represents a medal to be suspended by a riband, and worn round the neck; the plate C, is made one half of copper, and one half of brass; the plate D, is one half English steel, and the other half German steel; a disc of leather or cloth is placed between the metals to prevent galvanic contact. Fig. 3, represents a series of medals, made of copper, brass, English and German steel, in in manner similar to the foregoing. These series of medals are intended to be used more particularly in conjunction with the metallic bath, herein-after described, or in cases where the metals are required to be kept in a damp or moistened state. Fig. 4, represents a form of metallic combinations, to be worn as a bracelet or armature, and is composed of small plates of copper, brass, English and German steel; these plates are rivetted together, a plate of copper to one of English steel; a plate of brass to one of German steel; and in order to prevent galvanic contact, pieces of cardboard are interposed between the plates, leaving a space in the centre, through which may be passed an elastic band having a snap or clasp at the ends, for the purpose of securing it to the wrist or arm. Each of the metal plates should have stamped upon its surface

some device or design, so as to give them a certain degree of roughness, which sometimes greatly increases their utility; in this or any other similar form, combinations of the metals may be worn by females as bracelets, head-bands, necklaces, &c. Fig. 5, represents a necklace for children, the beads of which are formed of copper, English steel, brass, and German steel, threaded alternately upon a string or riband. Any of these articles, where they are intended to be worn as ornaments, may, if required, be covered with a film of gold or silver, to give them a more pleasing appearance. Fig. 6, represents a corset busk; one side E, is formed of two pieces of brass and copper, and the other side F, of English and German steel; or it may be made with the four metals upon each side, but this mode does not offer any great advantage over the other. Fig. 7, represents an instrument for striking the surface of the body to increase the energy and activity of the muscles. It consists of a bundle of wires formed of equal portions of copper, brass, English and German steel wire, to which a suitable handle is attached. Fig. 8, represents an Indian strygil for rubbing the surface of the body; G, G, are wooden or ivory wheels, the peripheries of which are alternately covered with copper, brass, English and German steel. Fig. 9, represents what I term metallic wadding, or cataplasm; it is formed of a piece of cotton wadding covered with gum, or a solution of sugar, or molasses, upon which is spread a quantity of filings or turnings of copper, brass, English and German steel. The gum or sugar prevents the oxydation of the metals, and gives to the mass a certain degree of suppleness. To prevent the asperities of the metals injuring the skin, the surface of the poultice may be covered with a thin layer of wadding. Fig. 10, represents an armature or ring for fitting the thigh, leg, or arm. The figures show a front and back view of the armature; they are made of copper, brass, English and German steel; the two portions are kept together by an adjustable strap at the back, marked *b*, *b*; the front is secured by the hasps *c*, *c*. If the whole of the limb is to be covered with metal, then two or more of these armatures must be used. Fig. 11, represents a bath formed of the four metals, copper, brass, English and German steel, in which the patient is to be placed; and, where necessary, the

greater portion of the body may be covered with filings or turnings of the metals above named, either in a dry or wet state; or series of medals, such as represented by *Fig.* 3, and forming a sort of chain, may be wound round the limbs of the patient, with the view of increasing the surface exposed to metallic contact.

Having thus described the nature of my Invention, and the manner of carrying the same into effect, I wish it to be understood that I do not bind myself to the precise details herein-before given. But I claim the use and manufacture of the instruments, apparatus, and articles formed of a combination of metals as herein shown and described, for application to the surface of the human body as curative agents, or as preventives of disease.

In witness whereof, I, the said Antoine Burq, have hereunto set my hand and seal, this First day of October, in the year One thousand eight hundred and fifty-three.

ANTOINE BURQ. (L.S.)

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